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"IS BUSINESS PSYCHOLOGY BECOMING A JOKE?"

Current Opinion (October number) contains an article with the caption, "Is Business Psychology Becoming a Joke?" The writer of the article points out that such well-known psychologists as Hugo Munsterberg and Walter Dill Scott have written at length in support of the claim that every department in all great industries ought to be under the supervision of a psychological expert.

In his recently issued "Foundations of Normal and Abnormal Psychology," the eminent Dr. Boris Sidis declares that business psychology is purely imaginary. He insists that "any intelligent business man knows infinitely more about business and how to obtain the best results out of certain conditions than all the psychologists with their laboratory experiments, their artificial statistics and puerile, trivial experimental arrangements, giving results no less trivial and meaningless." In fact, the good doctor seems a bit excited, and, as *Current Opinion* points out, elaborates this condition cruelly. But has not the good doctor gotten off on the wrong foot? So far as the writer is advised, no psychologist has as yet made the contention that psychology is an exact science. To quote one of the most eminent and one whom Dr. Sidis has himself quoted, Dr. Hugo Munsterberg, in the introduction to his book on "Psychology and Industrial Efficiency," says:

"So far we have only scattered beginnings of the new doctrine, only tentative efforts and disconnected attempts which have started, sometimes in economic, and sometimes in psychological quarters. The time when an exact psychology of business life will be presented as a closed and perfected system lies very far distant."

As psychology is a study of the human mind or the mental qualities of a human being, and as business is directed and

carried on by the human mind, it should not be considered as inappropriate to at least try to find a psychological basis for business. The difficulty with Dr. Sidis is he assumes psychologists are claiming to be able to direct business, whereas, as a matter of fact, psychologists are making no such claim. They are studying the problem, and business efficiency has increased very materially as a result of such studies. Dean Herman Schneider, of the University of Cincinnati, pointed out, some time ago, the danger of claiming too much based on insufficient experimental work. In this respect Dr. Sidis might appropriately sound a warning, but when he takes the position, as he does, that "industrial efficiency does not belong to the domain of psychology," and gives no proof that his contention is correct, he cannot expect to be taken very seriously by the business men who are in earnest in their endeavor to increase the relative efficiency of American industries. Psychologists have been of material aid in bringing about this desired improvement, but they have not claimed, at least those among the psychologists who are recognized as authorities have not claimed, to be able to do the things which Dr. Sidis so earnestly decries.

PSYCHOLOGY AND THE TEACHER

One of the three great factors in modern industrial education is vocational guidance. This problem has been approached largely through the science of psychology, and this science has also been applied in our efforts to teach constructively and thoroughly. In this connection it is interesting to note what Professor William James, in his book on "Talks to Teachers," says in relation to teaching:

"The science of psychology, and whatever science of general pedagogics may be based on it, are in fact much like the science of war. Nothing is simpler or more definite than the principles of either. In war, all you have to do is to work your enemy into a position from which the natural obstacles prevent him from escaping if he tries to; then to fall on him in numbers superior to his own, at a moment when you have led him to think you are far away; and so, with a minimum of exposure of your own troops, to hack his force to pieces, and take the remainder prisoners. Just so, in teaching, you must simply work

your pupil into such a state of interest in what you are going to teach him that every other object of attention is banished from his mind; then reveal it to him so impressively that he will remember the occasion to his dying day; and finally fill him with devouring curiosity to know what the next steps in connection with the subject are. The principles being so plain, there would be nothing but victories for the masters of the science, either on the battlefield or in the schoolroom, if they did not both have to make their application to an incalculable quantity in the shape of the mind of their opponent. The mind of your own enemy, the pupil, is working away from you as keenly and eagerly as is the mind of the commander on the other side from the scientific general. Just what the respective enemies want and think, and what they know and do not know, are as hard things for the teacher as for the general to find out. Divination and perception, not psychological pedagogics or theoretic strategy, are the only helpers here."

PSYCHOLOGY AS A BASIS FOR SELLING

The activities of most large industrial institutions may be classified broadly under three headings—Manufacturing, Accounting, and Selling. For the purpose of illustration, let us consider the organization of an electrical operating corporation.

The generating or manufacturing division is based squarely upon the science of mathematics. A generating unit operating at normal capacity will generate the exact amount of current for which it is designed. The figures can neither be changed nor denied. This current, sold at a fixed price, will yield a definite revenue. Here, again, the accounting division rests upon the science of mathematics. Ten k.w. hours at ten cents per k.w. hour is one dollar. The deduction does not admit of argument. The amount of revenue which will be received can be definitely determined. It is when we turn to the sales division, however, we discover there is no fixed basis from which calculations may be made. It is impossible to determine in advance just how much current may be sold in a given territory. This problem cannot be worked out from the basis of mathematics. Extended research has been conducted to ascertain, if possible, the best basis for calculating possible sales, and, at the present time, the science of psychology, although as stated by Dr. Mun-

sterberg as "indefinite and tentative," seems to offer the larger measure of hope for helpful experimentation. In the chapter which Dr. Munsterberg devotes to "Buying and Selling" in his book on "Psychology and Industrial Efficiency," he points out:

"(Psychological) experiments will trace the exact effects which the salesman or customer may produce. But here not even a modest beginning can be discovered, and it would be difficult to mention a single example of experimental research. . . .

"The salesman in the store or the commercial traveler adjusts himself to the wishes, reactions, and replies of the buyer. Above all, when it becomes necessary to direct the attention to the decisive points, the personal agent has the possibility of developing the whole process through a series of stages so that the attention slowly becomes focused on one definite point. The salesman observes at first only the general limits of the interest of the customer as far as it is indicated by his reactions, but slowly he can find out in this whole field the region of strongest desires. As soon as he has discovered this narrower region in which the prospects of success seem to be greatest, he can systematically eliminate everything which distracts and scatters the attention. He can discover whether the psyche of the individual with whom he is dealing can be influenced more strongly by logical arguments or by suggestion, and how far he may calculate on the pleasure instincts, on the excitement of emotions, on the impulse to imitate, on the natural vanity, on the desire for saving, and on the longing for luxury. In every one of these directions the whole play of human suggestion may be helpful. The voice may win or destroy confidence, the statement may by its firmness overcome counter-motives or by its uncertainty reinforce them. Even hand or arm movements by their motor suggestion may focus the desires of the customers, while unskillful, erratic movements may scatter the attention and lead to an inner oscillation of the will to buy.

"At every one of these points the psychological experiment may find a foothold, and only through such methodological study can the haphazard proceedings of the commercial world be transformed into really economic schemes. Indeed, it seems nothing but chance that just this field is controlled by chance alone. The enormous social interplay of energies which are discharged in the selling and buying of the millions becomes utterly planless as soon as salesman and customer come into contact, and this tremendous waste of energy cannot appear desirable for

any possible interest of civilization. The time alone which is wasted by useless psychophysical operations in front of and behind the counter represents a gigantic part of the national budget. . . .

"When the hundreds of millions of customers in the civilized world want to satisfy their economic demands in the stores, the whole dissolves into a flood of talk, because no one has taken the trouble to examine scientifically the psychotechnics of selling and to put it on a firm psychological foundation."

While Dr. Munsterberg has pointed out that at the present time no experiments have been made, and therefore there are no reliable deductions upon which to base a compilation of psychological data as a basis for selling, he does hold out the hope that such a process is perfectly possible, even feasible. In fact, Dr. Munsterberg goes further and definitely states that this seems the only logical solution of the problem of salesmanship in a scientific manner:

"The single individual can never find the ideal form of motion and the ideal process by mere instinct. A systematic investigation is needed to determine the way to the greatest saving of energy, and the result ought to be made a binding rule for every apprentice."

In concluding his argument on the subject of "Selling," Dr. Munsterberg says:

"It seems, indeed, most desirable to devise psychological tests by which the ability to be a successful salesman or saleswoman may be determined at an early stage. The lamentable shifting of the employees in all commercial spheres, with its injurious social consequences, would then be unnecessary, and both employers and employees would profit. Moreover, like the selection of the men, the means of securing the most satisfactory work from them has also so far been left entirely to common sense. Commercial work stands under an abundance of varying conditions, and each may have influences the isolated effects of which are not known, because they have not been studied in that systematic form which only the experiment can establish. The popular literature on this whole group of subjects is extensive, and in its expansion corresponds to the widespread demand for real information and advice to the salesman. But hardly any part of the literature in the borderland regions of economics is so disappointing in its vagueness, emptiness, and helplessness. Experimental psychology has nothing with which

to replace it to-day, but it can at least show the direction from which decisive help may be expected in future."

Dr. Munsterberg also gives his judgment as to how the problems which ought to be scientifically studied may be taken up and solved:

"The ideal solution for the United States would be a governmental bureau for applied psychology, with special reference to the psychology of commerce and industry, similar to the model agricultural stations all over the land under the Department of Agriculture."

DR. MUNSTERBERG UPSETS VOCATIONAL GUIDANCE BELIEFS

Two interesting statements from Dr. Hugo Munsterberg's book on "Psychology and Industrial Efficiency." These statements are of especial interest to those who are making an investigation of the subject of vocational guidance.

1—"No man in modern society can devote himself to everything for which his mind may long."

2—"The inclination which gives so much of the joy in labor, is by no means necessarily coincident with those psychological dispositions which insure most successful work. Political economists have found this out repeatedly from their statistical inquiries. Very careful studies of the textile industry in Germany carried out in recent years yielded the result that the intelligent, highly trained textile laborer often dislikes his work the more he shows his ability for it, this ability being measured by the wages the individuals earn by piece-work. The wage and the emotional attitude were not seldom inversely related."

If Dr. Munsterberg is correct in his contentions then the mere fact that the boy or girl who has a strong liking to do a certain thing does not necessarily insure that they will be successful in doing that thing.

EARNING CAPACITY DEPENDS ON TRAINING

J. C. Wright, head of vocational work in the schools of Kansas City, Mo., in a pamphlet outlining the new courses for the schools of that city, shows the need of this work for high school boys. He says:

"About 90 per cent. of all boys entering high school never reach college. They go out as workers with no particular skill. Many of them drift into small jobs as 'boys' with boys' pay.

"Figures issued by the United States Bureau of Education

show that in the period of twenty years from 22 to 42 years of age, the total earnings of the average unskilled man will equal \$10,500, of the shop trained man, \$14,225; of the trade school trained man, \$23,000, and of the technical school trained man, \$34,750."

REDUCING DEATHS, DUE TO ACCIDENTS, BY EDUCATIONAL METHODS

In this issue of the Bulletin will be found a memorandum of the organization and operation of the "Bureau of Efficiency" of the Northern Pacific Railway. This Bureau, while but a little over a year old, has reduced deaths due to operating accidents on the Northern Pacific Railway System during the first six months of 1914, as compared with a similar period of 1913—seventy-three per cent. The memorandum is very complete and no doubt much of the information contained in this article will be of value to other industrial institutions although not in the transportation business.

VOCATIONAL SCHOOLS IN NEW JERSEY

Rapid progress by local districts throughout New Jersey to establish vocational and agricultural or manual training in conjunction with the public school system has been made during the past year. At the present time nearly 100 school districts of a total of 473 in the State have taken advantage of the 1912 law authorizing the establishment of such courses.

Nearly all the large cities have adopted manual training. Not so much headway has been made in the small communities, however. In the rural districts the lack of sufficient money to inaugurate the vocational or manual training has been the chief difficulty to handicap the pupils.

The State law provides that each district which desires to inaugurate the new system shall be assisted by the State. Any fund between \$250 and \$5,000 raised by a school district to start the idea, will be duplicated by a check from the State treasury.

Holyoke, Mass, lays claim to the most model industrial school in the United States. Fully furnished and equipped it cost \$100,000.

AGRICULTURE IN OKLAHOMA SCHOOLS

Efficient Course for Youthful Farmers Will be Feature of the Coming Term

(Tulsa Democrat)

One of the most interesting features in the coming agricultural campaign in eastern Oklahoma will be the meetings at the schools. The question of teaching agriculture in the schools is attracting attention in all parts of the country and the movement is strong in Eastern Oklahoma. Tulsa is one of the larger centers that is going to have an agricultural course in its high school.

The meetings at the schools in the campaign will be largely for the purpose of showing the importance of the modern methods of education, the bringing about of a system of teaching that will actually train the child for the duties of life. Practical teaching is regarded as the keynote of this new movement, because it trains the whole child—the mind and body at the same time—it teaches in terms of the child's life so that the child understands and is interested in what he is learning, and it teaches the boy and girl to think in terms of action." "Drudgery," says Prof. Holden, "is only work without motive. Work is always enjoyed when there is a motive behind it. Practical education is the kind that motivizes school work, and what is more it vitalizes school work. It gives strength through doing something worth while and it makes better citizens—physically, spiritually, intellectually and economically."

BALTIMORE VOCATIONAL SCHOOLS END MOST SUCCESSFUL SEASON

Baltimore's summer vocational school opened July 6th and continues throughout the summer, affording opportunity to those industrious boys and girls who wish to improve each shining hour regardless of the summer heat. The vocational classes are located at No. 9 School, Greene and Fayette streets. Instructions are given in metal work, printing, manual training, drawing, millinery, sewing and cooking. All these courses were popular when given at No. 70 School last summer. Over 200 boys and girls are enrolled.

THE FITCHBURG PLAN OF CO-OPERATIVE INDUSTRIAL EDUCATION

(Organized August 1, 1908)

The Co-operative Industrial Course of the Fitchburg High School, patterned after the idea of Dean Schneider of the University of Cincinnati, was organized August 1, 1908, at the initiative of Mr. Daniel Simonds, late president of the Simonds Manufacturing Company, and provides an opportunity for learning a trade and obtaining an education at the same time. This is accomplished by spending alternate weeks in the shops of the city and the high school as an apprentice in the following trades:

Machinist, patternmaking, sawmaking, drafting, iron molding, tinsmithing, piping, printing, textile and office work, at the works of the Bath Grinder Co., Blake Pump & Condenser Co., Brown Engine Co., C. H. Cowdrey Machine Works, H. M. Downs Printing Co., L. H. Goodnow Iron Foundry, The Jennison Co., Fitchburg Machine Works, Fitchburg Steam Engine Co., Grant Yarn Co., G. M. Parks Co., Parkhill Mfg. Co., Putnam Machine Works, and the Simonds Mfg. Co.

The course is of four years' duration, the same as the regular high school course. The first year is spent wholly in school, and the next three alternate weekly between shop and school. A trial period of two months, beginning at the end of the first school year, is given each candidate to see if he is adapted to the particular trade he elects, and his parents sign an agreement whereby the apprentice agrees to complete the full course, and the manufacturer, on his part, agrees to teach him the rudiments of the trade as designated in this agreement.

Allotment to the various shops is made in June by the director of the course, and, as far as possible, the desires of the boy as to the shop he prefers are met.

Wages are paid for shop work at the following rates: First year, 10 cents an hour; second year, 11 cents an hour; third year, 12½ cents an hour; making a total of approximately \$550 for the three years of shop work.

The first class graduated in June, 1911. Of this class, four are attending the Co-operative Courses of the University of Cincinnati, continuing their studies for engineers or teachers. The majority of the class is working at their respective trades at

wages ranging from \$2.50 to \$3.50 per day. One of the first year's graduates is getting \$25 per week, and another \$40 per week. Ninety per cent of the graduates are working at the trades they learned while taking the course. Members of the course who are now alternating between shop and school are earning over \$15,000 per year.

The studies are along such lines as will better fit them to practice their trades as skilled workmen and thinking mechanics, and is actually correlated to the trade. English is taught in a vital manner, so that the boy can tell about his work in clear language and write descriptions of it that can be understood. A weekly written and oral report of his shop work is required, to be filed for reference as to his progress in his shop work. His reading is directed along such lines as will acquaint him with the history of industry, the progress of trade and invention which has made this manufacturing age the greatest epoch in the world's history. He does not ignore the classics, however, for he has an æsthetic nature that requires cultivation as well as the professional student.

Freehand and mechanical drawing are essentials to progress in the trades, and are an equipment that enables him to read blueprints and proceed with his work on his own initiative.

Physics teaches him to understand the laws underlying all mechanics.

Chemistry acquaints him with the nature and structure of materials.

Shop Mathematics trains him in the problems that arise in daily shop work.

Civics teaches him the duty of citizenship.

Mechanism of machines teaches him the principles and methods of manufacture and operation of shop tools, and commercial geography and business methods to understand the common laws of business.

Economics deals with problems of industry and "Social Service" and broadens his understanding of the problems of the day.

The course is now on its sixth year, having graduated three classes, numbering 50 pupils.

The Fitchburg Plan contemplates taking care of any trade or vocation that the community offers for boys or girls to work at. It is planned to take up the building trades, agriculture and

women's occupations just as soon as the demand for them is made.

The social side is fostered by the Fitchburg Industrial Society, to which any member of the course above the freshman class is eligible. Monthly meetings are held, at which talks on subjects of interest and profit are given. The course also publishes "Co-operation," in which items of interest to the school and shop are chronicled.

This, then, is the "Fitchburg Plan" of Industrial Education, the first public school idea in the country to really care for the needs of the mechanic and furnish him with such an equipment that on graduation from the high school he is a breadwinner, with a place in the ranks of the world's busy workers.

AUGUST 1, 1913.

Machinist, Draftsman, Pattern Maker and Iron Molder

(Figures at right indicate periods per week of 45-minute duration.)

FIRST YEAR—All School Work:

English	4
Arithmetic, tables and simple shop problems.....	5
Civics and American History.....	4
Algebra	5
Freehand and Mechanical Drawing and Bench Work.	10

SECOND YEAR—School and Shop Work:

English	5
Shop Mathematics, Algebra and Geometry.....	5
Physics	4
Industrial History and Commercial Geography.....	5
Mechanism of Machines.....	5
Freehand and Mechanical Drawing.....	5

THIRD YEAR—School and Shop Work:

English	5
Shop Mathematics, Trigonometry.....	5
Chemistry	4
Physics	4
Mechanism of Machines (one-half year).....	4
Business Methods (one-half year).....	4
First Aid to injured.....	1
Freehand and Mechanical Drawing.....	6

FOURTH YEAR—School and Shop Work:

English	5
Shop Mathematics.....	5
Economics (one-half year).....	5
Mechanism of Machines and Jig Design (one-half year)	5
Physics, Electricity and Heat.....	4
Chemistry	6
Freehand and Mechanical Drawing.....	4

NOTE.—Text books for each trade in Mechanism deal with individual trade, and class work discusses his particular problems.

Cotton Manufacture

(Figures at right indicate periods per week of 45-minute duration.)

FIRST YEAR—All School Work:

English	4
Arithmetic, tables and simple shop problems.....	5
Civics and American History.....	4
Algebra	5
Freehand and Mechanical Drawing and Bench Work.....	10

SECOND YEAR—School and Shop Work:

English	5
Shop Mathematics, Algebra and Geometry.....	5
Physics	4
Industrial History and Commercial Geography.....	5
Cotton, sources and preparation.....	5
Freehand and Mechanical Drawing.....	5

THIRD YEAR—School and Shop Work:

English	5
Mathematics	5
Chemistry	4
Physics	4
Cotton Machinery.....	4
First Aid.....	1
Freehand and Mechanical Drawing.....	6

FOURTH YEAR—School and Shop Work:

English	5
Economics (one-half year).....	5
Mathematics	5
Cotton Machinery (one-half year).....	4

Physics, Electricity and Heat.....	4
Chemistry of dyeing soaps, sizing.....	6
Pattern Design	4

Some idea of mill end of work may be gleaned from following schedule of course in yarn manufacture at Grant Yarn Co.:

CARD ROOM—I and 1-2 Years.	SPINNING ROOM—6 Months.
Picker Room.....2 weeks	FINISHING ROOM—10 Months.
Card Room.....2 months	Spooling2 months
Doublers6 weeks	Twisting4 months
Combers7 months	Warpers2 months
Drawing1 month	Winders2 months
Speeders6 months	MACHINE SHOP—2 Months.

Printing

(Figures at right indicate periods per week of 45-minute duration.)

FIRST YEAR—All School Work:

English	4
Arithmetic, tables and shop problems.....	5
Civics and American History.....	4
Algebra	5
Freehand and Mechanical Drawing and Bench Work.....	10

SECOND YEAR—School and Shop Work:

English	5
Mathematics, Algebra and Geometry.....	5
Physics	4
Industrial History and Commercial Geography.....	5
Printing Machinery and Appliances, type forms.....	5
Drawing (lettering, designs).....	5

THIRD YEAR—School and Shop Work:

English	5
Mathematics (estimating)	5
Chemistry	4
Physics	4
Printing Machinery (one-half year)	4
Business Methods (one-half year)	4
First Aid to Injured	1
Laying Out and Design	6

FOURTH YEAR—School and Shop Work:

English	5
Mathematics (cost estimating)	5

14 *Bulletin The National Association of Corporation Schools*

Economics (one-half year)	5
Machinery and Setting (one-half year)	5
Physics, Electricity and Heat	4
Chemistry (inks, gelatines, cleansers, etc.)	6
Drawing and Design	4

Office Work Leading to Salesmanship, Etc.

(Figures at right indicate periods per week of 45-minute duration.)

FIRST YEAR—All School Work:

English and Penmanship	4
Arithmetic, tables and simple shop problems.....	5
Civics and American History	4
Algebra	5
Freehand and Mechanical Drawing and Bench Work.....	10

SECOND YEAR—School and Shop Work:

English and Penmanship	5
Office Organization	5
Mathematics (Business Arithmetic)	5
Physics	4
Industrial History and Commercial Geography	5
Freehand and Mechanical Drawing	5

THIRD YEAR—School and Shop Work:

English	5
Mathematics (estimating, bookkeeping systems)....	5
Chemistry	4
Physics	4
Salesmanship (one-half year)	4
Business Methods, Study of Shop Manufacture (one-half year)	4
First Aid	1
Freehand and Mechanical Drawing	6

FOURTH YEAR—School and Shop Work:

English	5
Mathematics	5
Economics (one-half year)	5
Psychology of Salesmanship (one-half year).....	5
Typewriting	4
Chemistry	6
Freehand and Mechanical Drawing	4

SECRETARY DANIELS STARTS BUREAU OF EDUCATION IN NAVY

Captain Clark to Organize Schools for 60,000 Enlisted Men

As another step in his efforts to democratize the American Navy through the leveling influence of education, Secretary Daniels announces the establishment of a new bureau in the Navy Department which will administer the enlisted men's schools of instruction on shipboard and shore.

The head of this bureau will be known as the aid for education, and will have a seat in the Council of Aids, through which the Secretary of the Navy administers his department.

Captain George R. Clark, now commandant of the Naval Training School in Chicago, has been appointed to the new place and will take up his duties September 15.

Under the system of education established by Secretary Daniels, the enlisted man of the present generation in the Navy is taught everything from spelling to naval strategy and tactics. He can get the benefit of a course in common school training which, when young, he might have missed, or he can branch out in special lines of training in special trades, such as cooking, carpentering and steam fitting, or the more graceful avocation of being a musician.

Schools for 60,000 Men

It is over this system, established in the interest of 60,000 enlisted men, that Captain Clark, as aid for education, will be placed.

Secretary Daniels is prouder of his seamen's schools than of any other feature of the Navy. He holds that the Navy, by affording practical education to enlisted men, can do more good for the country than by any show of martial force it can exert. He is determined to correct the practice of bygone days of turning men loose at the end of their period of enlistment without qualifications for earning a comfortable livelihood in private life.

Calls Navy a University

"The Navy," Daniels said, "is the greatest university in America, embracing every character of instruction, from the teaching of spelling to the newly enlisted men, to the study of

strategy by the most experienced officers, and having in its classes, including university extension work, more than 60,000 men.

"That this educational work shall have the best directors the position of Aid for Education has been created."

The academic instruction of men on board ships and at shore stations is conducted by officers who teach the elementary subjects to those men who have not been grounded in these branches. Three-quarters of an hour each day is given to this instruction, and the remainder of the period, generally from 1:15 to 2:30 p. m., is devoted to technical and naval subjects.

KANSAS CITY TO INAUGURATE VOCATIONAL AND INDUSTRIAL COURSES

The Board of Education, Kansas City, Mo., will inaugurate a special two-year vocational and industrial course this fall at Central High School of that city. After this year the school will become wholly an industrial and commercial high school. In the two-year vocational course the pupils will be required to take only one academic subject, English. They will take special mathematics, mechanical drawing, and such trade courses as they may choose from the following subjects: Printing, foundry work, forging, machine shop practise, wood turning and pattern work, shop electricity, electrical construction, carpentry and cabinet making, plumbing, painting, and gas-engine work.

The two-year business course will be along the same line as those given in the regular business colleges. Pupils may take the four-year course with its academic work if they desire. Free vocational work will also be offered in several of the ward schools this fall. Continuation classes for the benefit of boys and girls who left school above the fifth grade to work in factories will also be instituted.

The Columbus, Ohio, *Journal* strongly endorses industrial training schools for both boys and girls. The *Journal* especially commends the teaching of courtesy, kindness, thoughtfulness, and a due appreciation of one's calling. "Every man and woman," says the *Journal*, "should be trained in the business they have undertaken to furnish them bread and meat, not more for the material consideration than for the joy there is in doing things well."

GOVERNMENT'S PLAN FOR VOCATIONAL EDUCATION

**If Plan is Carried Out This Country Will Be Placed Among the
Most Progressive of All as Regards Practical Education**

BY EDWARD MARSHALL

Perhaps the most important educational movement which ever has been known in the United States reached the culmination of its first stage recently, when the President's Commission on National Aid to Vocational Education submitted its report to Congress.

As a part of this report, or at least accompanying it, was the draft of a remarkable bill, which has been presented in the Senate by the Hon. Hoke Smith, and in the House by Representative Hughes. The movement is said to have the President's sanction.

Summarized, the bill provides for the needs of vocational education through the medium of national grants, in aid of State enterprise, and denied to States which are not enterprising.

These Federal grants are to be made for instruction in agriculture and the trades and industries, and for the training of teachers of agricultural, trade, industrial, and home economics subjects.

The report emphasizes the fact that the words "agricultural education," as frequently used in it, include education for the farm home as well as for the farm itself.

The Federal grants proposed are large, and, if the bill becomes a law, will put the United States in line with the most progressive nations of the world so far as the truly practical education of its youth goes. We have not been so situated of late years.

The total Federal expenditure contemplated is very large, increasing to a maximum of \$7,000,000 a year in 1924, to be apportioned only among such States as meet the requirements of the plan by themselves appropriating large complementary sums for similar purposes. Thus the bill not only provides for a generous expenditure of Federal money, but is intended to stimulate large expenditure by the States.

Briefly summarized, the expenditures contemplated are:

Big Outlay of Money

First, \$200,000 annually to go to the Federal Board for Vocational Education for administration, studies, investigations and reports to aid the States, the studies covering the subjects of agriculture and home economics, trades and industries, commerce and commercial processes, and methods of teaching and courses of study for such subjects.

Second, appropriations to the States for the training of teachers, beginning with \$500,000 for the fiscal year ending June 30, 1916, and increasing in 1918-19 to a maximum annual appropriation of \$1,000,000 and continuing at that figure. This money it is proposed to distribute among the States in accordance with the relative percentage of their population.

Appropriations for agricultural education begin with \$500,000 for the fiscal year ending June 30, 1916, and increase by \$250,000 each year until 1922, and by \$500,000 for the two years 1923 and 1924, until the maximum annual appropriation of \$3,000,000 is reached in 1924. The appropriations are to continue subsequently at that rate.

The agricultural appropriations are to be distributed among the States in the proportion that the rural population of each State bears to the rural population of the whole United States. The State contributions, upon which the Federal contributions will be contingent, will be \$5,000 for each year prior to 1922, and not less than \$10,000 for any year thereafter.

The total amount which it is proposed to appropriate for trade and industrial education, for the fiscal year ending June 30, 1916, is \$500,000, and it is proposed to increase future appropriations by \$250,000 a year until 1922, and thereafter for two years by \$500,000 a year, until, for this work also, a maximum of \$3,000,000 a year is reached in 1924, and these appropriations, too, are to continue indefinitely thereafter.

These appropriations for trade and industrial education are to be distributed among the States in the proportion which each State's urban population bears to the nation's total urban population. Just as the agricultural appropriations will reach the country, so these appropriations will reach the city.

Under the two plans the States of New York, New Jersey, Connecticut, Pennsylvania, and Massachusetts, which may be said to form the metropolitan section of the nation, will, for example, receive:

FOR THE SALARIES OF TEACHERS, SUPERVISORS OR DIRECTORS
OF AGRICULTURAL SUBJECTS

	MAXIMUM	
	1915-16	1923-24
New York	\$19,550	\$117,330
New Jersey	6,400	38,400
Connecticut	1,150	6,900
Pennsylvania	30,750	184,500

FOR THE SALARIES OF TEACHERS OF TRADE AND INDUSTRIAL
SUBJECTS

	MAXIMUM	
	1915-16	1923-24
New York	\$84,300	\$505,800
New Jersey	22,350	134,100
Connecticut	11,750	70,500
Pennsylvania	54,300	325,800

It is the theory of the commission that national grants are required for the salaries and the training of vocational teachers, first, to help solve a problem too large for the States to work out without Federal aid; second, to help States already heavily burdened otherwise; third, to equalize among the States the task of preparing workers whose increasing tendency to move from State to State is making training of our citizens for their life work a national as well as a State duty; fourth, to give interest and prestige in the States to the work of preparing our youth for useful and productive service.

The commission holds that, as a nation, we are singularly backward in the collection of knowledge concerning right methods of developing technical education; that European countries have gained great advantages over us through their superior enterprise in this regard, and that this work must be done by the Federal Government in order to obtain the best results.

It is the judgment of the commission, as indorsed in their proposed legislation, that the schools, aided in part by the national Government, should be supported and controlled by the public; that the education given in these schools should be of less than college grade; that they should be designed to prepare

boys and girls over fourteen years of age for useful or profitable employment; and that they should be of three types.

The favored types are:

Three Kinds of Schools

All-day schools, in which practically half the time will be given to actual practice for a vocation on a useful or productive basis; part-time schools for young workers over fourteen years of age, which will extend either their pupils' vocational knowledge, give definite preparation for entrance to vocations, or extend general civic or vocational intelligence; and evening schools, to extend the vocational knowledge of workers over sixteen years of age.

The Administration plan, as provided for in the proposed legislation, includes the creation by the States of State boards, with which the national Government may deal; and the creation of a Federal Board, consisting of the Postmaster General, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, and the Secretary of Labor, with the Commissioner of Education as its executive officer, to administer the funds and to co-operate with the States in promoting vocational education.

Federal co-operation with the States is to be subject to conditions safeguarding the proper expenditure of Federal funds; requiring the formal acceptance by the States of the Federal statute providing national grants; requiring that the States provide for the proper custody and disbursement of the Federal funds intrusted to them; providing that the States, with the approval of the Federal Board of Vocational Education, shall formulate plans for the Administration of the grants in conformity with the provisions of the Federal statute, and establish minimum requirements for the State as to the qualification of teachers and equipment of schools; and providing that for each dollar paid from the Federal grants the State or local community affected, or both, shall expend an equal amount for the same purpose, besides meeting all other costs of plant, equipment, and maintenance, including the salaries of all teachers necessary to complete well-rounded courses of instruction.

It is further provided in the plan that each State shall receive its allotment as long as it uses the funds supplied to it in

conformity with the purposes and provisions of the Federal statute, payment being made quarterly.

So here we have the United States coming forward with what, at least, is the most ambitious plan for educational advance likely to be carried out anywhere in the world during the immediate future. While Europe is killing off its trained workers, we are preparing to train ours.

MEETING OF THE NATIONAL SOCIETY FOR THE PROMOTION OF INDUSTRIAL EDUCATION

In the city of Richmond, Va., December 9 to 12, 1914, there is to be held a convention, the unique plan for which is already attracting widespread interest among educators and others who are following the rapid growth of the vocational education movement.

The city of Richmond has requested the National Society for the Promotion of Industrial Education to make an industrial and educational survey for the purpose of obtaining full information concerning the principal occupations, especially those in which young people are employed, in order to formulate plans for improving the opportunities for training and preparation for the vocations. The survey was begun the first of last May and will be finished the fifteenth of October.

A synopsis of the findings will be printed in tentative form and reported to the National Society for the Promotion of Industrial Education at the Richmond Convention in December for study and for the making of recommendations.

APPRENTICE SCHOOL MAKES GOOD RECORD

Continuation schools in Wisconsin gave instructions to 6,914 students during the year 1913-14; the industrial school to 727 students, and the evening schools to 5,535, according to the report of the department of public instruction of Madison.

The night school records show the following classification of students: 386 clerks, 722 mechanics, 179 telephone operators, 420 waiters and servants, 249 housewives, 496 factory workers, 62 dressmakers, 42 tradesmen, 16 teachers, 84 draughtsmen, 40 printers, 2,492 miscellaneous workmen.

The total expense of the apprenticeship school was \$9,835.89. The cost of the continuation school was \$66,183.70.

AN APPRECIATION OF THE IMPORTANCE OF BUSINESS PROBLEMS

BY JOSEPH FRENCH JOHNSON,

Dean of New York University

It is a misfortune—now too late to remedy—that university men, as a class, did not until recently regard business activities as worthy of serious study. I am pleased to report to the world of business, however, that this attitude has given way to an appreciation of the importance of business problems and to a keen desire to assist in the solution of those problems. With this end in view, trained university specialists in this country and abroad have been engaged for years in collecting and classifying information as to accounting, advertising, financial, and other business activities, in working out principles and in watching the application of those principles. Some of the greatest universities, including Harvard, Northwestern, New York, the Universities of Pennsylvania, of Chicago, of Illinois, of Wisconsin, of Minnesota, of Birmingham (England), of London (England), and a number of others, now maintain separate schools or departments wholly devoted to organizing and imparting business knowledge.

Value of Systematic Training

These university departments have succeeded so well because they offer a broad training for executive business positions. Let a young man learn all that he possibly can about the details of one department of a concern, and he is still not fitted to be executive head of that department; let a department head know all about his own department and much about other departments, and he may still not be fitted for broader management. It takes a knowledge of wide relationships, a grasp of intricate problems, an understanding of basic principles, to conduct a business; and those things do not come from handling in routine fashion the details of an office.

Executive success results from a combination of ability, energy and, what is equally important, broad practical knowledge.

NORTHERN PACIFIC RAILWAY MEMORANDUM OF ORGANIZATION AND OPERATION OF THE BUREAU OF EFFICIENCY

Organization

First Vice-President.

Special Representative First Vice-President (Ex-Superintendent).

Chief Clerk (Ex-Train Master).

Clerk-Stenographer.

Stenographer.

Division Chairmen (the 13 division superintendents).

Division Committees (composed of the superintendents' staff).

Operation

The Special Representative spends 75 per cent. of his time on the line observing physical conditions at stations, terminals, and shops; freight train service is used whenever possible. The Superintendent, train masters, master mechanic, road masters, and bridge and building supervisor are invited to accompany him over their districts whenever that can be done without interfering with important duties. He makes it a point to talk with as many employees as possible; he confers with all operating officials.

He arranges to meet with superintendents and their staffs as often as possible, at which time the specific defects and the dangerous practices observed on that division are taken up and discussed and ways and means considered for bettering the situation.

A complete file and exhibit of statistics, showing the comparative situation of the entire line by districts and divisions, is carried and used in these conferences.

Standard Plan Files effecting the work pertaining to the Bureau are carried and new work is observed and checked up as to proper clearance, provisions for safety, etc.; where changes of a practical nature can be made in standard plans, either bridge and building, mechanical or construction, which will eliminate danger or reduce the hazard, the subject is taken up with the proper officer as a recommendation.

Every effort is made to so conduct the work of the bureau

as to relieve the Vice-President, General Managers, and General Superintendents of all detail work; in other words, to do the work these officers would do themselves if they had the time to devote to observation and investigation and working out of details.

Friendly relations with State Labor Bureaus are cultivated in order that suggestions and complaints may be encouraged to be made to the Bureau of Efficiency instead of to the Executive Officers. The most careful attention is given these suggestions and complaints.

A comprehensive system of statistics calculated to indicate the nature, the time, the location, and the class of employees or person killed or injured, is kept up to current date. This starts with the wire report of accident.

Two objects are sought for: first, to determine whether the accident was due to physical causes or negligence; second, to provide means, if possible, for preventing a similar accident anywhere on the system. The conclusions are then transmitted to the thirteen superintendents for their observation and action.

The General Claim Agent and his entire Line Staff are conferred with constantly, the two departments working in perfect unity.

Close watch is kept of the work of other roads engaged in safety movements in order that nothing of value may be overlooked.

As 83 per cent. of accidents during 1913 were the result of negligence on the part of the man killed or injured or his fellow employee, the educational feature is paramount.

In addition to the work done by word of mouth in personal contact with employees, bulletins, pointing out and emphasizing certain dangerous practices or conditions, are posted on Bureau of Efficiency Bulletin Boards located in yard offices, shops, round houses, etc., approximately every month; an effort is made to write short, snappy matter with a "punch" in it, the current vernacular of the rank and file being used at times.

Placards calculated to attract attention and excite a feeling of carefulness have been posted on company buildings and on freight equipment; epigrams of a safety character were printed on the back of pay checks for ten months.

To further stimulate the interest among the rank and file, it was considered advisable to institute what is known as the "Careful Club"—which in reality is not a club at all, but simply

those of our employees who felt sufficient interest in their own lives and those of others to sign an application in which they promise to perform their work in a careful manner, upon which they are furnished with a lapel button, a facsimile of which appears on the copy of application hereto attached; the indications are that this will be a popular movement among the men.

The use of a Suggestive Card furnishes an easy and convenient way of reporting unsafe conditions and practices, or offering suggestions calculated to improve the service or conditions; during 1913, 2,504 of these cards were received—nearly 90 per cent. of the suggestions or complaints had a foundation or were of practical benefit to the company and men.

These cards go to the Division Chairman (Superintendent), who either takes the necessary action and makes a notation on the card to that effect, or, if for any reason action is not taken, sends the card to the Bureau with an explanation as to why no action was taken; in any event, the cards are sent to the Bureau at the close of each week with some action. The Bureau may pursue the subject as far as practicable after the card reaches its hands.

Attached hereto is a memorandum showing the various undertakings of the Bureau since its origin; copies of instructions making effective certain changes or putting into operation devices for promoting safety.

Undertakings of the Bureau of Efficiency

1913

Bulletin Boards

During the month of March special bulletin boards, for posting bulletins issued by the Bureau of Efficiency, were distributed to all divisions, being placed at such points where they would meet the eye of employees. Information as to dangerous practices and actions necessary to obviate same, and other information bearing directly on safety matters have been posted approximately every thirty days.

Dissemination of Information Concerning Dangerous Practices

During the period of February 4th to December 4th, eighty-five circular letters have been sent each division superintendent, calling attention to some dangerous conditions or practices, and suggesting a remedy.

Elimination of Dangerous Clearances

Particular attention has been given to the elimination of dangerous side clearances, especially as concerns maintenance of way and bridge and building material. The improvement is very marked. Attention has also been given to keeping yards and shop premises clear of obstructions; to the boxing of guy wires, the removal of old posts and other obstructions which served no purpose. At the present time it is believed that no other railroad has premises so clear and clean as ours.

Protection for Repair Tracks

What is known as a "Repair Track Clearance Card" was made standard and put in use during the month of February. This clearance card is in fact a train order; is issued by the car foreman, and certifies that no men are working underneath or between the cars on the repair track. The engine foreman or conductor must have one of these clearance cards before entering a repair track. There is no record up to date of a violation of this order, and no man has been killed or injured on account of cars being moved on repair tracks since this order became effective.

Blue Flag Device

For the protection of car repairers working on repair tracks or inspecting or working on trains in yards, a metallic blue flag device, to be attached to the side ladders of freight cars and in the marker brackets of passenger cars, has been put into use. These metallic flags are visible at a greater distance than the old bunting flag, and cannot be blown down by the wind or knocked off by a jar. They also are constructed in such a way that a blue lamp may be suspended from the device at night. A blue flag device has also been put in use to be used on locomotives under steam, while standing in the vicinity of roundhouse, etc., to prevent the engine from being moved while a man is underneath same.

Shop Inspection of Tools and Machinery

A weekly system of having all shop tools, jacks, etc., inspected by the rank and file of shop employees, a detailed report being made by them of tools, etc., found to be defective or unsafe, and the taking out of service of all such tools, was made effective in February, since which time injuries due to defective tools, machines, jacks, etc., have been almost entirely eliminated.

Safeguarding of Machinery

The covering of gear wheel and the guarding of belting has been practically completed on the system. The larger shops have, or will have installed wherever necessary, hand rails and foot walks in connection with line shafting.

Locomotive Squirt Hose and Connections

A squirt hose connection has been invented and made standard. This, in connection with a stronger type of hose, will eliminate the injuries sustained on account of scalding caused by squirt hose pulling or blowing off from the nipple.

Locomotive Shaker Bars

A change in the type of shaker bar has been made by the Mechanical Department which has resulted in eliminating injuries caused by shaker bars slipping off from nipple.

Safeguarding Cabooses

The standard plan for cabooses has been changed as follows: The gateway at each end of the car over the draw bars has been permanently closed up with an iron bar. Hand holds have been attached at each end of the car for the brakeman to take hold of when putting up his markers; each end of the caboose fitted with a permanent air brake valve and whistle, to be used in lieu of the back-up hose heretofore standard. In a comparatively short time the separate back-up hose will not be necessary for freight train equipment.

Safeguarding Gasoline Engines and Pumps

A standard has been adopted for placing a screen in front of flywheels and considerable progress has been made this season in applying this safeguard.

Handling Foreign Draw Bars

A special tag, to be attached to the draw bars pulled out from foreign cars between stations, has been furnished to all freight conductors, the purpose being to bring the draw bars or draft rigging into the same point where the car it belongs to has been sent out for repairs. The Master Car Builder states that this is effective and is a money-saving arrangement.

Stepping Boxes

A new style of stepping box has been designed and made standard. This box has a greater bearing surface on the bottom, and is fitted with steel shoes to prevent slipping. We have had no injuries on account of stepping boxes tipping or slipping in connection with this new design.

Loose and Missing Hand-Hold Cards

In order that train and yard men might be warned against the use of a ladder on a car having a loose or missing hand hold, a red placard, warning them of the defective condition, has been made effective as a standard, since which time accidents due to that cause have been reduced to almost nothing.

Dangerous Side Projections on Outfit Cars

To prevent further accidents to train and enginemen by coming in contact with the footboards, boxes, and other projections which has been built on the sides of outfit cars by their occupants, instructions were issued that before such cars were moved from station to station or through yards, that all such projections must be removed.

Inspection of Tank Spout Ropes

A thorough and periodical inspection of tank spout ropes was inaugurated in the month of March. Old and rotten ropes were removed and replaced with safe material, since which time no accidents from this source have occurred.

Tool Handles

To eliminate injuries caused by tool handles and to save the time incidental to fitting handles to tools with such frequency, a superior grade of tool handles has been made standard.

Safeguarding Ends of Turntables

The ends of all turntables on the system have been equipped with planking up to the height of the rail, which has the effect of raising the foot of a person standing on the table to the height of the rail, thus avoiding the danger of shearing off a foot between the rails on the table and the rails on the circle.

Equipping Bridges with Walks and Hand Rails

The work of placing walks and hand rails on bridges situated inside of or just outside of yard limits, or station grounds,

or in other localities where trainmen are obliged to work on the ground, has progressed in a very satisfactory manner this year. It is believed that next season will practically complete work of this character.

Safeguarding of Coal Docks

All coal docks on the system have been inspected and minor changes and improvements made which will have the effect of reducing, if not eliminating, the many injuries to men who work around the docks. Several suggestions as to changes in standard plans for the purpose of safeguarding coal docks have been adopted by the Chief Engineer.

Safeguarding Company Buildings

The standard has been changed as to the distance between a track and a company building to a minimum of twelve (12) feet. Where a clearance of twelve (12) feet cannot be obtained, the doors of such structures will be placed in the ends or back of the structures, instead of on the side facing the track. This will apply to sand houses as well as other buildings.

Standard Clearance for Switch Stands

The standard clearance of switch stands was changed from six (6) feet to seven (7) feet, gauge side of rail to center of stand.

Side Track Switch Stands

The economy type of switch stand has been adopted as a standard for side track switches. This is a lower stand than the low banner, and where a narrow clearance is necessary on account of track conditions, the danger of being knocked from side of a car by a switch stand is lessened or eliminated.

Switch Point Boxes

The location of switch point boxes in automatic block territory to correspond to the increased clearance of switch stands has been made standard. This will remove another element of danger around switch stands.

Safeguarding Station Platforms and Premises

Depot platforms so situated that passengers might step off and sustain an injury have been protected by erecting railings, hand rails attached to steps, steps and platforms repaired, worn-

out thresholds replaced, in order that waiting rooms might be kept comfortable during the winter season; in short, making any and all station repairs calculated to increase the comfort and safety of passengers and employees.

Safeguarding Around Block Signal and Semaphore Trunking

Considerable progress has been made this season in surfacing up the ground around and filling in between the trunking used in connection with automatic block signals and semaphores which are located in the vicinity of switch stands or in yards where employees are obliged to work on the ground.

Whistles for Trackmen and Bridgemen

For the purpose of warning trackmen and bridgemen of approaching trains, a whistle has been furnished to the foreman of extra gangs and bridge-building gangs.

Brake Clubs

Recognizing the necessity for the use of brake clubs, it has been considered advisable to try out a club, especially designed for the purpose, which will possess the necessary strength for safety. Heretofore trainmen have used tool handles, which were not always safe for the purpose used. It is believed that the experiment will be satisfactory and the brake club made standard.

Torpedo Pouch

To prevent torpedoes from being scattered promiscuously around cabooses, to prevent their being carried in the pockets of trainmen and dropped where children or irresponsible persons could find them, a torpedo pouch has been made standard.

Red Top Torpedoes

To render torpedoes more readily visible when placed on the rail, a standard has been adopted whereby the tops of the torpedoes will be a bright red, instead of black, as heretofore. This is a protection to trackmen and the employees using hand cars and speeders.

Stand Pipe Clearances

The work of eliminating dangerous clearances of stand pipes has progressed satisfactorily this season. This will have the effect of preventing a great many serious injuries.

Crossing Flagmen Shelters

Standard has been changed so that door opens toward street instead of toward track; buildings are being turned around or door opening changed.

Turntable Pits

Circle wall being whitewashed to light it up and prevent men walking into it.

Rule for Moving Switch Stands

Economy stands *only* to be furnished on requisitions; high stands now in yards to be used on main line; low stands to be used to replace high stands so removed; economy type stands to replace low stands removed from close clearances.

Location of Poles Belonging to Telephone and Power Companies

The location to be designated by Superintendent riding engines and getting engineer's aspect of signal. This prevents view of fixed signals being obscured by poles.

Inspection of Outfit Cars

Cars used by extra gangs, bridge and building crews, linemen, etc., are to be inspected by foremen of gangs as to safe conditions of hand holds, running boards, etc., before being moved.

Prohibiting the Occupancy of Cook Cars While in Transit

Cars used for cooking purposes, belonging to extra gangs, bridge and building crews, linemen, etc., must not be used or occupied while being switched or moved between stations. Cooks and helpers will be required to ride in cabooses or on passenger trains. No fire will be permitted in these cars during period in transit. Responsibility for obedience of this rule rests with foreman in charge of gang.

Metal Handles for Hand Cars

All new hand cars and hand cars which are shopped will be given metal handles made of steel tubing. Old locomotive flues will be utilized when possible.

The Mechanics Institute at Rochester, N. Y., is enlarging its sphere of activity with the industrial institutions of that city. Alternate weeks of study and experience in shop work seems to be working successfully, and co-operative effort along this line is being undertaken with an increasing number of corporations.

MR. LOVEJOY'S STATEMENT

NEW YORK, September 22, 1914.

Editor BULLETIN OF NATIONAL ASSOCIATION OF CORPORATION
SCHOOLS,

Irving Place and 15th Street, City.

Dear Sir: In your September issue, which has just been brought to my attention, I find myself doubly charged with misrepresentation of the attitude of employers toward child labor and industrial education, and of the present extent of child labor in America. I have been so heartily in sympathy with what The National Association of Corporation Schools was established to accomplish and of your general program of work that I must confess it gave me a little shock to find myself a discordant note in your BULLETIN.

The *Washington Dispatch*, concerning industrial education, quotes from an address I delivered before the annual meeting of the Vocational Guidance Association in Grand Rapids, but the excerpts fail to bring out the distinction I attempted to make between the attitude of certain employers and the facts concerning industry as a whole. The address was a general plea for a sixteen year age limit for industrial employment—a standard which many employers are already applying in their own establishments. It was an attempt to show that the occupations which offer the greatest opportunity for the development of efficiency are closed to young children, and an attempt to point out the distinction between vocational guidance for youth who should be directed into industry and for little children who should be kept out of it. I am glad to enclose herewith a copy of the entire address, believing that the parts quoted entirely miss the point I sought to make.

Of course, I am willing to defend the address as delivered, and in charging that employers are promoting industrial education because "it is simply good business." I intended no reflection upon employers, but simply to state in an emphatic way my belief that economic self-interest and philanthropy are not opposed but harmonious.

More serious is the charge of deliberate misrepresentation of child labor statistics brought by F. G. R. Gordon in his letter to the *New York Times* which you reprint in full. I am enclosing a reply to Mr. Gordon's letter which I immediately sent to

the *New York Times* and which they have not published. I should be very grateful for the courtesy of space in your BULLETIN for this reply.

Sincerely yours,

OWEN R. LOVEJOY,
General Secretary,
National Child Labor Committee.

INDUSTRIAL SCHOOLS AT NEW ORLEANS

New Orleans Picayune

In the last few years it has been recognized that to do all we should for the youth of New Orleans we must establish industrial schools to equip, or at least begin to equip, boys and girls for the trades and industries they are likely to follow. Such schools are already in operation in most of the other American cities, but New Orleans has lagged a little behind the others because it has not had the money to organize and equip such institutions. While we are recognizing our backwardness in this matter the friends of education were delighted by the announcement of the Delgado donation for the establishment of an industrial school for boys. Unfortunately, the terms of the will prevented this donation from being immediately utilized, because the money was set aside for the construction of the school and no provision made for its operation and maintenance. The funds needed for that purpose could not be given by the School Board without stinting or injuring the high, grammar or primary schools.

The girls have been more fortunate in this respect. A school building has been provided in the front of the Sixth District originally intended as a grammar school. It was found that it was not needed for that purpose, and it was accordingly set apart as an industrial school for girls.

Thus the Francis T. Nicholls Industrial School for Girls completed its first year Friday, a large class graduating. An encouraging evidence of what it is accomplishing is contained in the announcement of Superintendent Gwinn that every one of the Nicholls graduates in millinery—it is a one-year course—has been assured of a position in the trade she has learned. The dressmaking department is a longer course, and the girls will return for another year for further instruction in that branch, when they will be qualified for work in it.

It will be seen that in all respects the school has been successful. It has attracted pupils, the girls showing a desire to be taught useful trades and industries, and it is possible to find work for those who have been so taught. The practice of schools finding positions for their graduates, and the disposition on the part of firms and companies to apply to schools and colleges for graduates, is one of the best features of our present educational system. The young man or woman who leaves any institution with honor does not, as of old, have to hunt high and low for a position; but finds his or her school or college looking out for him or her, and finds that industrial, manufacturing and scientific concerns are anxious to secure at once the services of all competent and skilled workers.

The experience in the case of the Francis T. Nicholls Industrial School for Girls gives us some idea of the good results that will follow when we have a thorough system of industrial education for girls and boys in full operation.

A NEW IDEA IN TEXT BOOKS

Editor BULLETIN: You ask me to state why the Harvester Company has prepared its own textbook on Arithmetic. The only reason is that none of the textbooks that we have located is adapted to the groups of boys in our shop classes and to the industry in which these boys are engaged. The problem in teaching arithmetic to a group of shop boys is a complex one. These boys have varying degrees of preparation. Some of them have finished the grammar school grades, while others have received but little training. They must be started in at the point where they are fitted to begin and be led through a course that will thoroughly ground them in elementary mathematics, not in an abstract way, but definitely related to the work they are doing from day to day. This requires not only the right teacher, it requires a specially adapted textbook.

For several years our shop class instructors have been preparing and using special arithmetic lessons, and our present textbook is a combination of these lessons and a direct outgrowth of work at McCormick, Deering, and Milwaukee Works, some of it dating back more than ten years.

The book has been prepared by the three shop class instructors, working under direction of the general office, and has been carefully supervised by the superintendents of the works.

thus insuring its practical character. The problems are those that the shop boy must solve in his regular work, rather than such as would train him as an accountant or bookkeeper. The book is elementary, starting with the simple principles and leading step by step through fractions and decimals to the problems connected with the use of calipers, screws and bolts, tapers, keys and keyways, and problems in percentage as related specially to shop efficiency, and ending with a section on both the English and metric system of weights and measures, and a supplemental section on short methods and checks.

This arithmetic differs from the ordinary textbook in several respects. It is printed on one side of regular size letter paper, so that each sheet may be used as a lesson paper and either pencil or pen used in working the problems and completing the tables. The lessons are not bound into a book, but prepared in loose-leaf form, the average lesson occupying a single sheet. Each student at the beginning of his course is given a binder cover, a sheet containing an outline of the arithmetic, and a sheet containing lesson number one. Subsequent lessons are given to him as fast as his work warrants. In this way the student builds up his own book, and if, for any reason, he drops out of the course, he receives only that portion of the book that he has mastered.

We know from experience that the plan of separate lesson sheets works well and we count on increased interest in mathematics on the part of our shop boys as a result of the issuance of this special textbook on arithmetic. C. J. HICKS.

TO FIT MEN FOR CITY JOBS

New York University Will Have School in Municipal Building

Courses for city employees are to be inaugurated by New York University so as to give engineers and clerks opportunity to prepare for higher places. The plan was suggested by Mayor Mitchel and classrooms have been provided in the Municipal Building. Instruction will be given daily between four and six o'clock, beginning October 1st.

Milton E. Loomis, in charge of the work, has a room on the twelfth floor of the Municipal Building. The subjects to be taught are English, secretarial duties, advanced stenography, elementary statistics, bookkeeping, accounting, and the government of New York.

STUDYING GARY TO HELP NEW YORK

Double Sessions, Prevocational Instruction Co-operation With Outside Activities, and More Freedom for Initiative Find Favor

Plans for extending the facilities in New York City for industrial education and for using the school plant more fully were discussed at a recent conference of the Board of Education. William Wirt, superintendent of schools in Gary, Ind., outlined in detail the features of the system worked out for that city and suggested some of those that might be adopted in New York. Among these features were the longer school day, the all-year school, double sessions, co-operation of outside agencies with the school, housing of high school children with those in elementary schools, larger facilities for shop instruction, and the making in these shops of equipment needed by the schools.

Superintendent Wirt reiterated that Gary does not lay any claim to having developed a system of industrial education. It does not aim to train workers in particular trades. It does endeavor to give each child a variety of shop experiences that will enable him or her better to decide what he or she wants to do when the time arrives when a choice must be made. It is a system of prevocational education. The schools there afford the pupils a large variety of wholesome activities in work, study, and play; secure and hold the interest of the child in work and in study and motivate the work so as to increase the future efficiency of the child.

The plan of holding two full sessions daily makes it possible for pupils who are backward in a subject to take an additional hour in that subject in the session in which he does not regularly recite. It also renders it possible to so organize its teaching force that the more experienced teachers may be placed with the less efficient to assist them. To this more efficient group it is possible to grant large initiative and responsibility. Although the school day for the teachers is six hours long, one hour longer than in New York, they are required to spend only four hours in the classroom. Another hour is devoted to work in the playground or in the auditorium.

By making each classroom have two complete sets of pupils Superintendent Wirt has reduced the cost of the school plant materially, but has used the money saved to equip the

school with a large variety of shops. Each is in charge of a mechanic, who has from six to eight boys as helpers, whom he instructs in the work of the shop. Each shop is self-supporting, in that the work done pays the mechanic's wage. Accurate cost records are kept. These are of value as part of the laboratory methods of teaching political economy. The child has as much right to work as it has to play, Superintendent Wirt believes. It is not child labor, for there is a wholesome environment and the children are being instructed. Gary has proved that the shopwork can be closely related to the grade subjects.

The real job, Superintendent Wirt keeps insisting, is not to fit the children to earn a living. It is to make citizens of the children. Industrial education is only a part of the problem. Community work, so much encouraged in Gary, is a big factor in instilling ideas and principles of good citizenship. Investigations of the community and home life, study of statistics concerning family records, occupation, home cooking garbage disposal, light facilities of tenements, unemployment, contagious disease are made largely by the children. They are actually participating in the civil life. The community and home are laboratories for school work.

In these ways the school becomes a sort of clearing house for the children's activity.

GETTING READY FOR TRADE SCHOOLS

(Brooklyn Eagle)

Mayor Mitchel's announcement that the heads of the University of Cincinnati and of the schools at Gary, Indiana, are looking over the chances for trade schools in this city, and that he hopes to secure them both to help start the trade schools for which appropriations have been asked, indicates that action is to take the place of the vociferation which has been the chief fruit of agitation of the subject in the Board of Education.

The Mayor hit the present situation exactly when he said: "We have already established vocational and industrial training in this city, but it is not broad enough; there has not been laid down a plan or programme which permits all the children of this community to take advantage of the vocational and industrial training that the city provides in small measure."

Not only has there never been any such plan, but the very idea of opening trade training to all the children, to the same

extent that scholastic training is now open to them, is utterly antagonistic to the theory on which our school system, and those of most other American cities, is founded. The men who control most of our school systems have been brought up on the notion that the purpose of education was not to fit men for manual labor, but to raise them above the need of it. So ingrained is that idea in our thinking that in its early days industrial training for negroes at Hampton and Tuskegee was bitterly opposed by some champions of negro equality, on the ground that General Armstrong and Booker Washington were trying to reduce negroes to menial positions, and thus to deprive them of that equality which the constitutional amendments guaranteed. That argument was grotesque in its application to the actual facts, but it was founded upon a widely prevailing notion that education for whites was not to make them carpenters or blacksmiths or plumbers, but lawyers and doctors and merchants and bookkeepers. The unfortunates who could not get education enough to take them into these preferred or "upper" classes would have to continue to do the manual work of the world, but the idea of sending a boy to school was to raise him above any such need, to "make a gentleman of him," in the language of a few years ago.

The absurdity of such an ideal in a democracy would be laughable if the consequences of it had not become tragic. Our schools, conducted in that spirit, have so increased the supply of labor in the white-handed employments that the wages have been cut down to the danger limit, while in the trades the supply has been so limited that the wages have risen to the point of crippling some lines of industry, and thousands of public school graduates, with no vocational training of any kind, have been objects of occasional or even permanent charity. If Mayor Mitchel's administration shall redress the balance of teaching so as to reduce the number of public school graduates who become criminals or paupers, for lack of any training which enables them to hold their "place in the sun," he will deserve a monument in front of Cooper Union.

Vocational courses in home making, agriculture, and wood-working will be added to the curriculum of the Keuka Institute which is located at Rochester, N. Y., this winter. A modern greenhouse is being erected on the south side of the College Building to permit experiments during cold weather.

SUMMER TERM AT AN END

Two Hundred Have Been in Attendance at the Boston Trade School for Girls

Two hundred pupils, each one of whom hopes to become a wage-earner, have been enrolled in the Trade School for Girls during its summer term, just closing, says the *Boston Transcript*. Of that number 113 are new on the lists; the others were there during the regular winter term and will continue this fall. All are looking toward the time when they can join the army of self-supporting women and contribute toward the family maintenance. The fact that sixty girls have not missed a day of the term is an indication of the sustained interest.

Many things combine to make this school unusually interesting. While primarily it aims to fit girls for trades, there is always in the mind of the principal and her assistants the importance of domestic work, for (they argue) a woman is pretty poorly equipped for life if she knows nothing of marketing, cooking and serving food, or the need of proper diet to keep herself in good condition in her struggle for existence. Therefore the classes in the kitchen and dining-room, seemingly apart from the rest of the school, are by no means secondary.

To visit these three spacious connecting houses on Massachusetts avenue and see what the girls have accomplished in forty days is a revelation. The advanced class in millinery is made up of a group which will enter active business in September. Excellent positions await them and all others who are trained here. Each one in the advanced classes in design has made, beside a dress for herself, an embroidered lace yoke and undersleeves, far from an easy task. Every pupil has had the privilege of giving half of each day to work on something for herself or the little folks in her household. There were 323 articles as the result of this plan and 600 pieces of different kinds in the way of order work, including rompers, aprons and children's dresses were sent out.

It is particularly interesting to note the progress of girls who hardly knew how to hold a needle at the beginning of the summer. One girl, very backward in the grades, has developed a wonderful gift at sewing, and she proudly wears a plaid gingham dress with collars and cuffs of piqué which she cut and made herself. Another who entered the first of August has

made a tailored skirt of worsted suiting in a way that would do credit to an experienced dressmaker.

In the power machine room the girls who choose to learn this trade have been busy making dolls' straw hats for a wholesale firm. Others are working on underwear.

There has been a "good time afternoon" one day in each week, and more than 500 are expected to enter the fall term. For the benefit of those who live in that section of the city, a preparatory class is to be started in the North Bennet Industrial School. Miss Florence E. Leadbetter, principal of the school, has had eighteen teachers this summer, all from her regular staff.

TO TEST PSYCHOLOGY AS A BASIS FOR VOCATIONAL GUIDANCE

Mrs. Wesley C. Mitchell, in a letter to the School Board of New York City, requests that a psychologist undertake an analysis of public school children in that State, with a view to determining those vocations for which the children are mentally equipped. The report of the committee on studies and textbooks, to whom the letter was referred, says:

"It seems, however, but right that the Board of Superintendents should know how the experiment is to be conducted in that it may judge of its value. It is necessary, therefore, that the Board of Superintendents should know not only the matters to be investigated, but in detail the manner of investigation."

The committee, however, favors testing the plan, and believes, if properly conducted, the results will be valuable.

On account of the delay in procuring suitable school buildings, the trustees of the Bristol County (Massachusetts) Agricultural School have announced that it will only be possible to accommodate a limited number of pupils at the school during the current year. It has, therefore, seemed best by the trustees to allot a definite number of scholarships to pupils in each of the several towns and cities in the county, New Bedford and Fall River having been allotted five each. These scholarships will be held for candidates from each town until September 1, 1914, after which date all vacancies will be filled in the order in which applications have been received without regard to locality.

VOCATIONS TO BE TAUGHT IN SCHOOLS

Statistics Throw New Light on an Important Question in Social Life in This Country

A charting of the population of the chief cities of the United States, according to the various trades in which dwellers there are engaged, has been attempted by the Russell Sage Foundation in connection with a monograph on vocational training, compiled by Leonard P. Ayres, director of the Foundation's division of education. The monograph has just been published by the United States bureau of education at Washington.

In its study, the Foundation included all the cities of the United States that have a population of more than 50,000, and discovered facts concerning the number of persons engaged in each of 140 occupations in each of those cities. As a result, it found that there were twenty constant occupations in which the number of men workers was at least equal to 1 for every 1,000 of the population, and seven constant occupations in which the number of women workers was at least 1 to every 1,000.

It discovered, for example, that in every city of the United States of 50,000 population there would always be found more than fifty barbers, and that in the average city of that size there would be found 150 barbers. It happened that the occupation of barber was the most constant of all occupations studied. Had anyone known the facts gathered by the Foundation, he might have foreseen that Gary, Ind., a city of 40,000, would on reaching that size employ about 120 barbers. The importance of such prophecy on the arrangement of vocational courses in public schools can readily be understood.

The constant occupations, with the number engaged in them in the average city, were as follows, the number engaged being in each case per 1,000 of population:

MEN			
Bakers	2	Waiters	6
Shoemakers	2	Bookkeepers	6
Street railway men	3	Printers	7
Plumbers	3	Machinists	8
Barbers	3	Steam railroad men	11
Masons	4	Carpenters	11
Blacksmiths	4	Salesmen	12
Engineers	5	Teamsters	12
		Clerks	15

Storekeepers	15	Laundresses	4
Laborers	37	Saleswomen	4
WOMEN		Teachers	5
Housekeepers	2	Dressmakers	9
Nurses	3	Servants	25

"It is almost certain that if this list was brought up to date two, and only two, additional occupations would be included," says Dr. Ayres; "those of stenographer-typewriter and chauffeur. These constant occupations include in the aggregate more than half of all the people engaged in gainful occupations in all our cities. The facts appear significant. They seem to indicate that, if all other conditions are equal, vocational guidance should give preference to those occupations that are everywhere constant over those that are not."

The next study undertaken by the investigators was of certain characteristics of different industries which it would seem fair to take into consideration in deciding whether or not those occupations held out promise to the future worker and were thereby entitled to co-operation of the public schools. The investigators took the stand that if any industry demanded of the public schools: "Train our future workers into greater efficiency," the schools had the right and duty to ask in return: "What have you to offer?"

Taking six common manufacturing occupations at random, the investigators asked first: "What are the current weekly wages paid to adult male workers?" In this comparison they calculated the preparation of male adult workers in each of these industries receiving weekly less than \$10, the percentage getting as much as \$10 but less than \$20, and the percentage getting \$20 or more. The aim was to ascertain whether there was in each industry "more room at the top." The results of this survey were:

OCCUPATIONS	UNDER	\$10 TO	\$20 AND
	\$10	\$20	UP
Printing	36%	50%	14%
Agricultural implements ..	48%	48%	4%
Bakeries	33%	63%	4%
Breweries	16%	75%	9%
Shoes	54%	41%	5%
Pianos	31%	60%	9%

The hours worked each day in each of these industries were found to be:

	HOURS PER DAY		HOURS PER DAY
Printing	8	Agricultural implements..	9½
Breweries	8	Shoes	9½
Pianos	9	Bakeries	10

Next the Foundation tried to ascertain in the case of each industry what proportion of the workers were unemployed in the year, and also what were the sanitary conditions in each affecting the health or lives of the workers therein. This last item was studied by finding the death rate per thousand employees in each of the industries, with the following results:

OCCUPATION	DEATH RATE	OCCUPATION	DEATH RATE
Shoes	9.4	Bakeries	12.3
Agricultural implements..	10.5	Pianos	18.0
Printing	12.1	Breweries	19.7

The investigators found that some of the industries were distinctly concentrated in one locality or section of the country, while others were to be found throughout the country. Thus, for example, 79 per cent. of all the cuffs and collars manufactured in America were made in Troy, N. Y., and 87 per cent. of all the grindstones were found to be manufactured in the State of Ohio; 57 per cent. of all the clothing in the country was manufactured in New York.

THAT OTHER JOB

S. ROLAND HALL in *Selling Sense*

You dream and dream of the interest and energy you would show if you were just in a different position.

That is human nature, all right, but do not deceive yourself. Every "job" has hard and disagreeable features. You simply cannot see them, looking on from the outside.

If you do not force yourself to do thorough work where you are, you will never develop the ability to do thorough work anywhere.

The real "other job" for you is probably not with some other firm, but a bigger responsibility with your present firm. Get it by filling the present office to the point of overflowing.

GENERAL EDUCATIONAL NOTES

The *Public Ledger* of Philadelphia notes that twelve new manual training centers have been authorized in the elementary schools for that city. It is the plan of Mr. Frazee, Vocational Director of Philadelphia, to give each boy in the seventh and eighth grades an opportunity of receiving instruction in shop work for half a day a week. Approximately 11,000 boys will be enrolled in the regular shop classes this year.

The Lowell, Mass., *Sun* takes the school board of that city to task for not enlarging and improving their industrial school. The *Sun* adds: "We are much behind some other Massachusetts cities in this matter of industrial education merely because of the lack of a suitable building in which to conduct the different departments."

New York City spent \$41,450,793 on its schools in 1913. There was a daily average attendance of 651,651 in the day schools. At the opening of the fall term 1914, the attendance had increased to over 700,000, about 35,000 of which are receiving only part-time instruction owing to lack of school facilities.

The 1914-1915 *Bulletin* of the Tennessee Agricultural Industrial State Normal School for Negroes has just been issued. Of the 442 students who regularly attended the session last year, 42 studied brick and wood-working, 30 manual training, 55 mechanical drawing, and 258 agriculture.

The Williamsport, Pa., *Sun* commends the efforts of the Board of Trade of that city for its interest in vocational training through the public school system. The *Sun* says: "The vocational school has done an immense amount of good and is capable of expanding its usefulness almost indefinitely. There is no room for argument on the other side. The city needs all the men with trained hands and eyes that it can get."

For the first time in the history of the Buffalo schools, the Technical High School, which will open this fall in the new structure, will offer courses for the vocational needs of girls. A special department has been arranged for them which will

include instruction in these essentials: machine sewing, dress-making, millinery, cooking, lunchroom management, home nursing, laundry practice, free-hand drawing and design, as applied to pottery and jewelry work.

A step that will lead directly to the introduction of vocational work into the schools of Philadelphia has been taken by the Board of Education in authorizing the establishment of night classes for the training of teachers in vocational subjects. Teachers affected are those who conduct seventh and eighth grade shopwork and elementary handicraft. Special training, of course of an elementary nature, along certain technical lines will be given them, after which they will be qualified to take charge of the first classes in vocational training.

The total number of medical students in the United States for the year ending June 30, 1914, was 16,502, a decrease of 513 below last year, a decrease of 1,910 below 1912, and a decrease of 11,640 below 1904, when 28,142, the highest number of students, were enrolled. Of the total number of students, 15,438 were in attendance at the regular colleges, 794 at the homeopathic, and 270 at the eclectic colleges.

Free instruction in various branches of drawing and design and practical training in art subjects of an industrial character will be given again this fall at the New York Evening School of Industrial Arts, at P. S. 27, Forty-second Street, east of Third Avenue. This school, which was established last season by the Board of Education, proved a success from the moment of its organization. At the exhibition of students' work, held at the close of its first year, the school was highly commended by the heads of many of the leading concerns in the vicinity of New York engaged in the art industries who attended, and the educational authorities were elated over the high character and practical value of the work turned out.

The Youngstown, Ohio, *Telegram* is urging the school authorities of that city to put into effect vocational education in their schools. "With our great industrial population, some plan ought to be devised that would open the way for work along the line of that done in Cincinnati and Gary, which would seem to be especially needed here."

Six new industrial schools will be opened in New York City this winter.

The Newark, N. J., *News* commends the Board of Education of that city for the establishment of the new industrial schools for girls.

A new girls' trade school will be built in Milwaukee at a cost of \$160,000, and \$80,000 has been appropriated for an addition to the girls' trade school now conducted at 18th and Wells streets. Four hundred girls are now enrolled in the school and the addition is being built to accommodate the many others who have made application for entrance.

Otis Earle Hall has taken charge of the rural educational work in the division of college extensions at the Kansas State Agricultural College. Athletic activities in rural communities and two- and three-day classes in vocational subjects for rural teachers will be included in his department.

Police Commissioner Woods of New York City has established a school to instruct policemen in desk duty in station houses and to increase the efficiency of that rank. Half a dozen of the most efficient captains will act as instructors under John F. Dwyer, who will have charge.

The Dress and Waist Manufacturers' Association of New York City are working on a plan for the establishment of an industrial school in their trade.

The Pittsburgh *Sun* commends the great advance in this country in vocational education and states that it has taken firm root in Pennsylvania. The *Sun* cites the anthracite coal industry as an example. "There have been a number of institutes organized and a score of students have passed State examinations for mine foremen this year. More than one hundred have passed for assistant mine foremen. The coal companies have made it obligatory on all boys under sixteen years of age to attend the mine schools for a portion of each day, and for this time they are paid the same rate as if they were working."

Committees of The National Association of Corporation Schools 1914-15

Trade Apprenticeship Schools

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W. L. Chandler,
Dodge Mfg. Company, Mishawaka, Ind.

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